



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 913397

Date: 16-Jun-17

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms	Ship Via
Quantity	Description
	Certified Signature: <u>15/06/2017</u>
	Receiver Signature: <u>[Signature]</u>
	A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited.
	Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.
	5017-615

Made in Canada.



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Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
4 ea	Part: 646.3310 Upper Cutter Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils). Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils). Job: 21057	Rev: NC PO: PO36166	Line: 5
4 ea	Part: 646.3310 Upper Cutter Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils). Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils). Job: 21058	Rev: NC PO: PO36166	Line: 6
4 ea	Part: 646.3311 Upper Cutter Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils). Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils). Job: 21059	Rev: NC PO: PO36166	Line: 7
4 ea	Part: 646.3311 Upper Cutter Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils). Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils). Job: 21060	Rev: NC PO: PO36166	Line: 8
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: _____ Made in Canada.			

DAS
38
9-89

SP17-6-15



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

Purchase Order ID PO36166

Purchase Order Date 5/2/2017

PO Print Date 5/24/2017

Page Number 3 of 11

Order From:

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Ship To: DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

613-446-4544

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

VENDOR'S TRUCK

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

Line Total:

\$72.40

7

160071

646.3311 UPPER
CUTTER REV. N/C

6/16/2017

Yes

6/16/2017

4.00

\$18.10

\$72.40

DAS
38
9-89

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

Line Total:

\$72.40

8

159562

646.3311 UPPER
CUTTER REV. N/C

6/16/2017

Yes

6/16/2017

4.00

\$18.10

\$72.40

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

Line Total:

\$72.40

9

159504

646.3711 CLIP REV. A

6/16/2017

Yes

6/16/2017

6.00

\$6.10

\$36.60

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-PRF-23377 TYPE I CLASS N

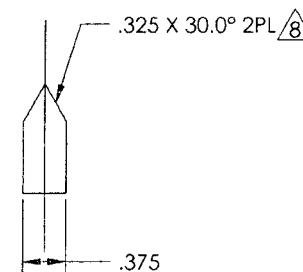
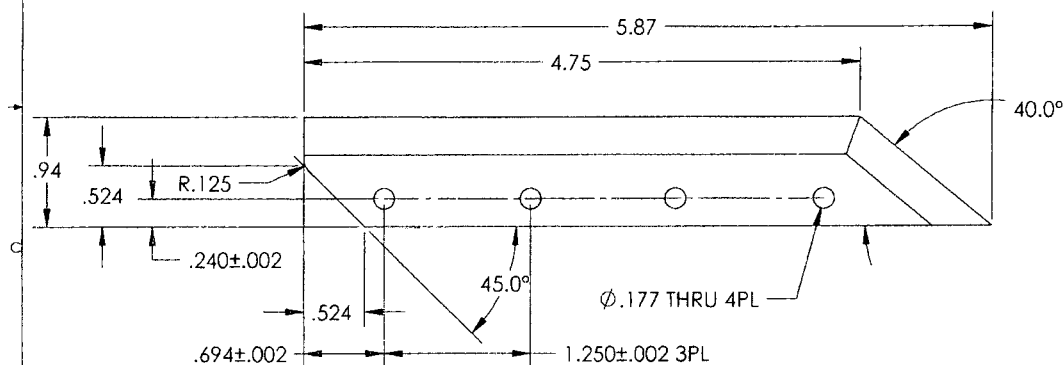
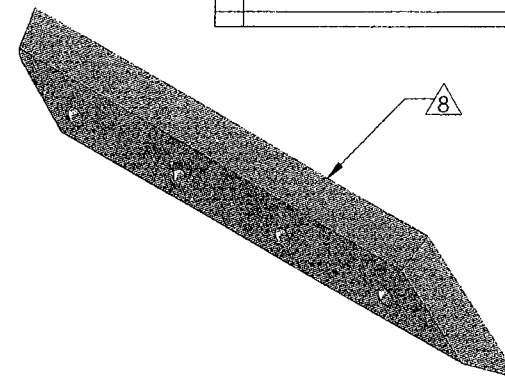
PO Instructions: PRIMER IS SUPPLIED BY DART

Note:

5/24/2017

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REVISION			
REV.	DESCRIPTION	DATE	APPROVED

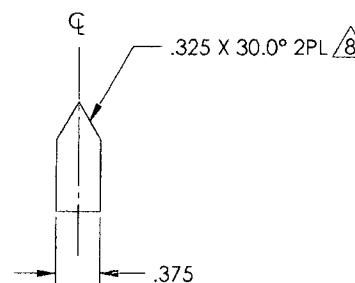
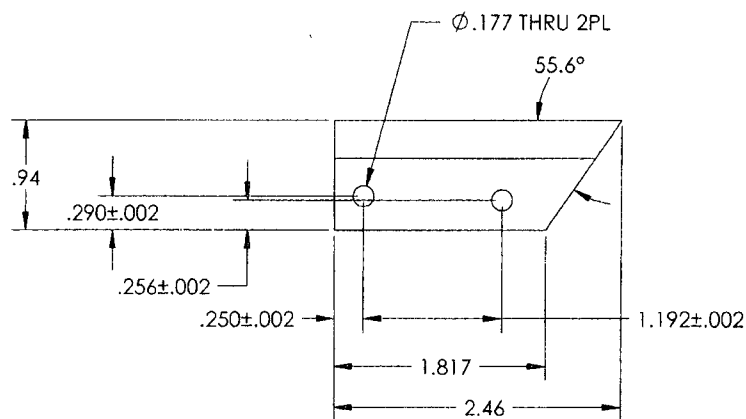
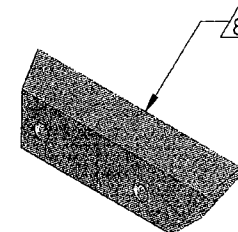


646.3316

ORIGINAL DATE (MM-DD-YY) 08-26-08		APICAL INDUSTRIES	
DRAWN BY V. NIPP	CHECKED P. BRAY	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAY		UPPER CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ±.01 2 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET B	REV N/C
SCALE NONE		DWG. NO. 646.3300	SHEET 8 OF 8

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

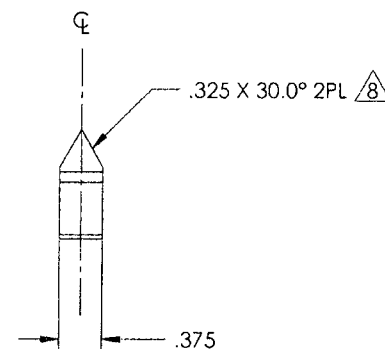
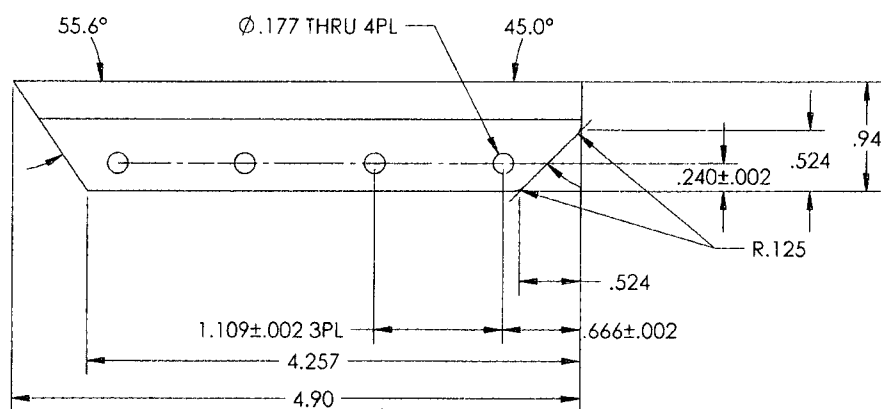
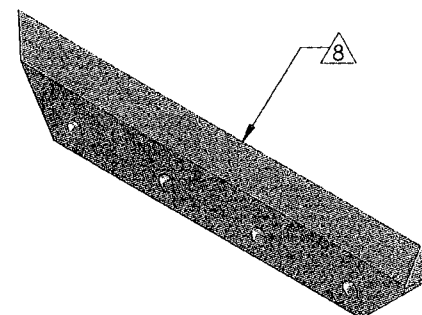
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



646.3315

ORIGINAL DESIGNED BY: JAC/DAVID DATE: 06-26-08 DRAWN BY: JAC/DAVID CHECKED BY: JAC/DAVID DRAWING APPROVAL: JAC/DAVID RELEASE: JAC/DAVID CONTRACT NO.:	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300
UPPER CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS 1.01 3 PLACE DECIMALS 1.005 ANGLES ± .5°	REF: CAGE CODE: 646.3300 SCALE: NONE SHEET 7 OF 8
	REV: N/C

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

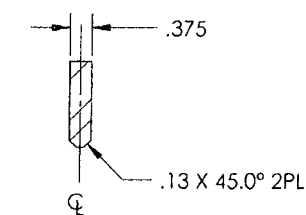
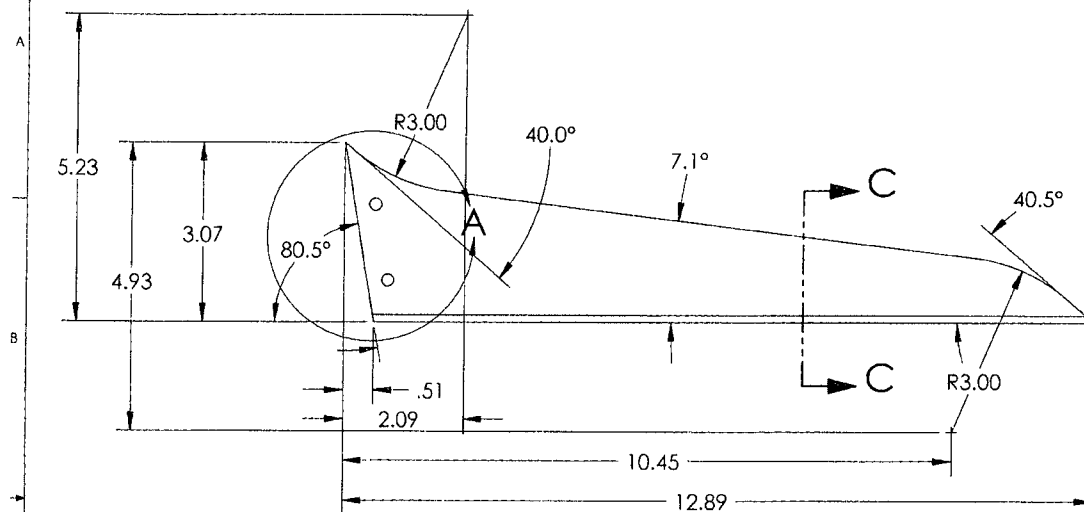


646.3314

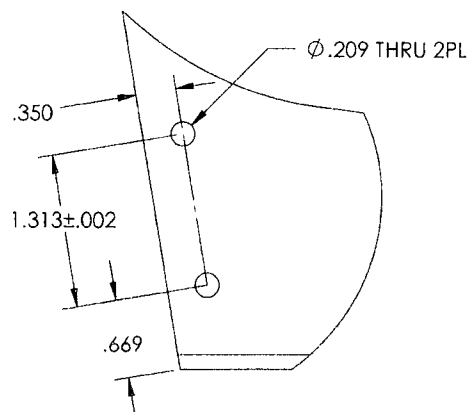
OFFICIAL DATE (MO DAY YR) 08-26-06 DRAWN BY C. HENRY C. HENRY DRAWING APPROVAL P. BRAVO 08-26-06 CONTRACT NO.	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5300
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. HOLE DIMENSIONS ±.015 2. HOLE LOCATIONS ±.005 3. PLACE DIMENSIONS ±.005	UPPER CUTTER ASSY IFT # CAGE CODE DWG. NO. 646.3300 SCALE NONE SHEET 6 OF 8

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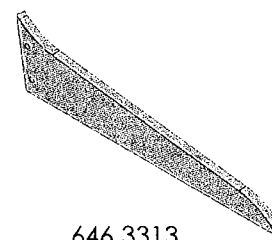
REV	DESCRIPTION	DATE	APPROVED



SECTION C-C



DETAIL A

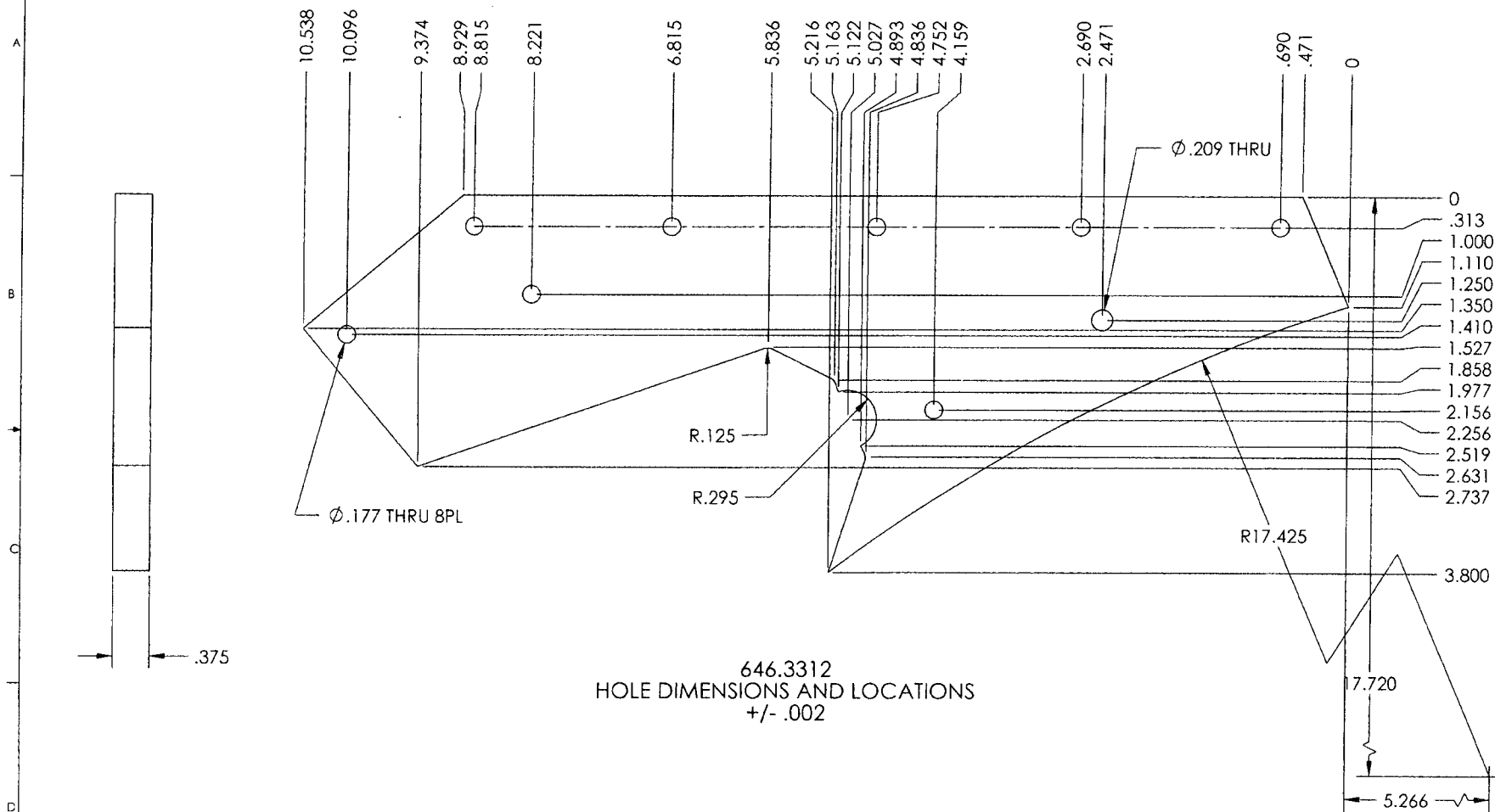


646.3313

ORIGINAL DATE: 08-26-06 DRAWN BY: J. CHESTER S. HILL DRAWING APPROVAL: P. BRADY DATE: 08-26-06 CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET: B CAGE CODE: 07M26 DWG. NO.: 646.3300 SCALE: NONE	REV: N/C SHEET: 5 OF 6

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
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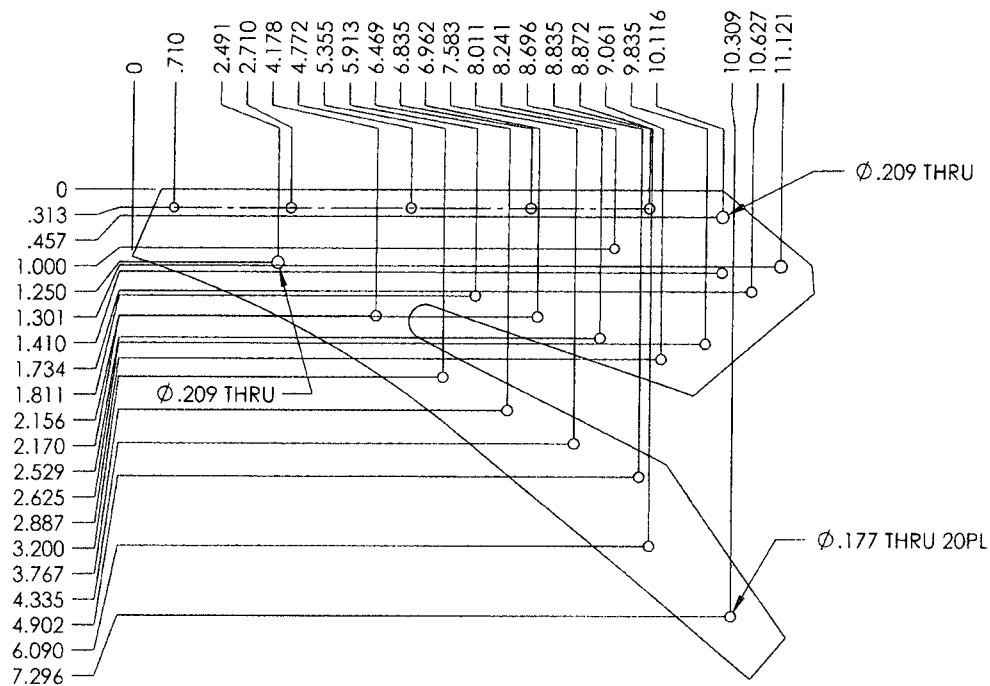
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



646.3312
HOLE DIMENSIONS AND LOCATIONS
+/- .002

ORIGINAL DATE: 08-25-98		APICAL INDUSTRIES	
MODIFIED DATE: 08-25-98		2608 TEMPLE HEIGHTS DR.	
DRAWN BY: J. HICKER		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY: J. HICKER		UPPER CUTTER ASSY	
DRAWING APPROVAL: J. HICKER		SHEET 4 OF 8	
SCALE: NONE		SHEET 4 OF 8	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS: ±.01 2 PLACE DECIMALS: ±.005 3 PLACE DECIMALS: ±.0005		SHEET 4 OF 8	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

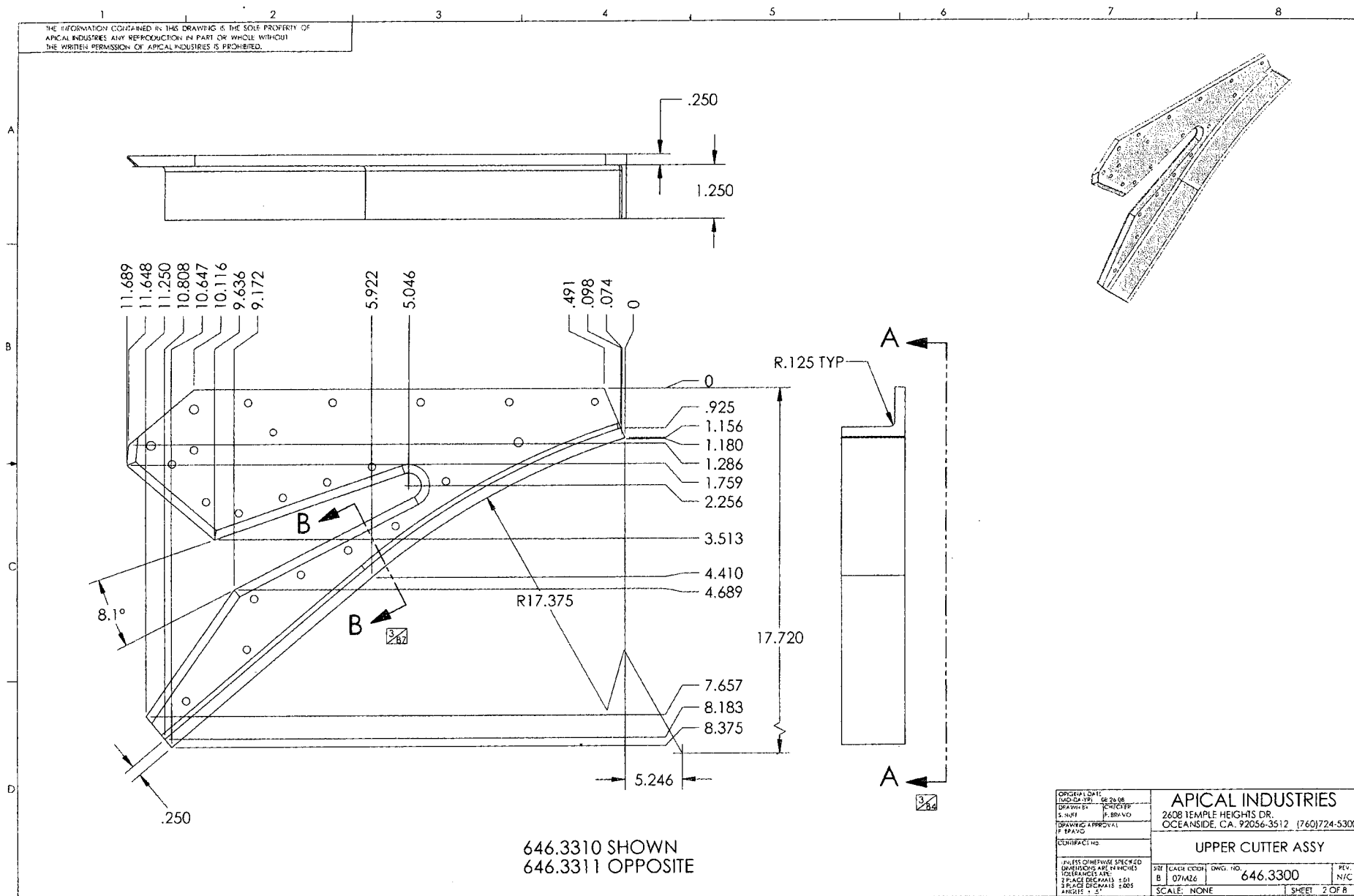


SECTION A-A

SECTION B-B

ORIGINAL DATE 1/20/00		APICAL INDUSTRIES	
DRAWN BY J. HUNT		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY J. HUNT		UPPER CUTTER ASSY	
DRAWN BY APPROVAL		SCALE NONE	
CONTRACT NO.		SHEET 3 OF 8	
2. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. PLACE DECIMALS 150 2. PLACE DECIMALS 150 3. PLACE DECIMALS 150 4. INCHES 1.5"		DATE 1/20/00	REV. N/C
CAGE CODE 07M26		QTY. 646.3300	REV. N/C

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



ORIGINAL DATE: 06-26-08 DRAWN BY: J. BRYAN CHECKED BY: J. BRYAN DRAWING APPROVAL: J. BRYAN CONFIRMED:		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		UPPER CUTTER ASSY	
SIZE: B CASH CODE: 07M26	DWG. NO.: 646.3300	REV.: N/C	SCALE: NONE
SHEET: 1 OF 1		SHEET: 2 OF 8	

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



QTY	UNIT	DESCRIPTION	ITEM #	QTY	UNIT	DESCRIPTION	ITEM #	QTY	UNIT	DESCRIPTION	ITEM #
1	EA	BOLT	601.2834	1	EA	BOLT	601.2834	1	EA	BOLT	601.2834
15	EA	RTV. LOCITE 598	601.2045	15	EA	RTV. LOCITE 598	601.2045	15	EA	RTV. LOCITE 598	601.2045
3	EA	SCREW	601.2765	3	EA	SCREW	601.2765	3	EA	SCREW	601.2765
2	EA	LOCKNUT	601.1624	2	EA	LOCKNUT	601.1624	2	EA	LOCKNUT	601.1624
6	EA	BOLT	601.2763	6	EA	BOLT	601.2763	6	EA	BOLT	601.2763
15	EA	WASHER	601.1607	15	EA	WASHER	601.1607	15	EA	WASHER	601.1607
15	EA	LOCKNUT	601.1541	15	EA	LOCKNUT	601.1541	15	EA	LOCKNUT	601.1541
3	EA	RIVET	601.2766	3	EA	RIVET	601.2766	3	EA	RIVET	601.2766
30	EA	WASHER	601.2764	30	EA	WASHER	601.2764	30	EA	WASHER	601.2764
1	EA	BLADE	646.3316	1	EA	BLADE	646.3316	1	EA	BLADE	646.3316
1	EA	BLADE	646.3315	1	EA	BLADE	646.3315	1	EA	BLADE	646.3315
1	EA	BLADE	646.3314	1	EA	BLADE	646.3314	1	EA	BLADE	646.3314
1	EA	UPPER GUIDE	646.3313	1	EA	UPPER GUIDE	646.3313	1	EA	UPPER GUIDE	646.3313
1	EA	CENTER PLATE	646.3312	1	EA	CENTER PLATE	646.3312	1	EA	CENTER PLATE	646.3312
1	EA	RH HALF	646.3311	1	EA	RH HALF	646.3311	1	EA	RH HALF	646.3311
1	EA	LH HALF	646.3310	1	EA	LH HALF	646.3310	1	EA	LH HALF	646.3310
1	EA	UPPER CUTTER ASSY	646.3301	1	EA	UPPER CUTTER ASSY	646.3301	1	EA	UPPER CUTTER ASSY	646.3301

QTY	DESCRIPTION	UNIT	PRICE	TOTAL
1	...	...	...	...

PARTS LIST

[illegible]

AP

NEXT ASSY

2408 150

646.4000

2808 TEL
OCEAN

--	--

Phases

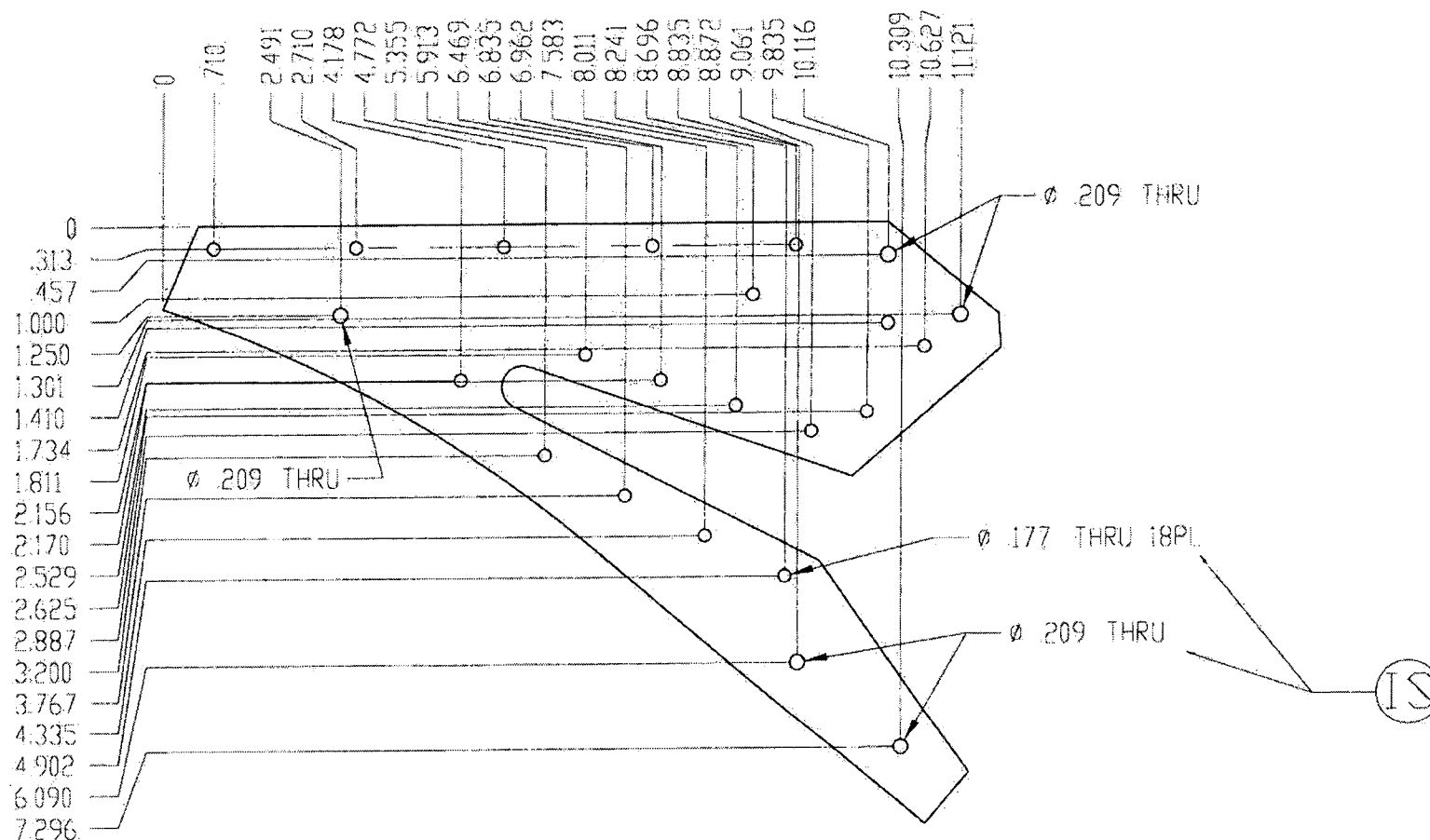
0	0.00	0.00	0.00
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1000

sqe	EAE EC
B	071A7A

SCALE NO.

SHEET 3, SECTION VIEW A-A, IS:

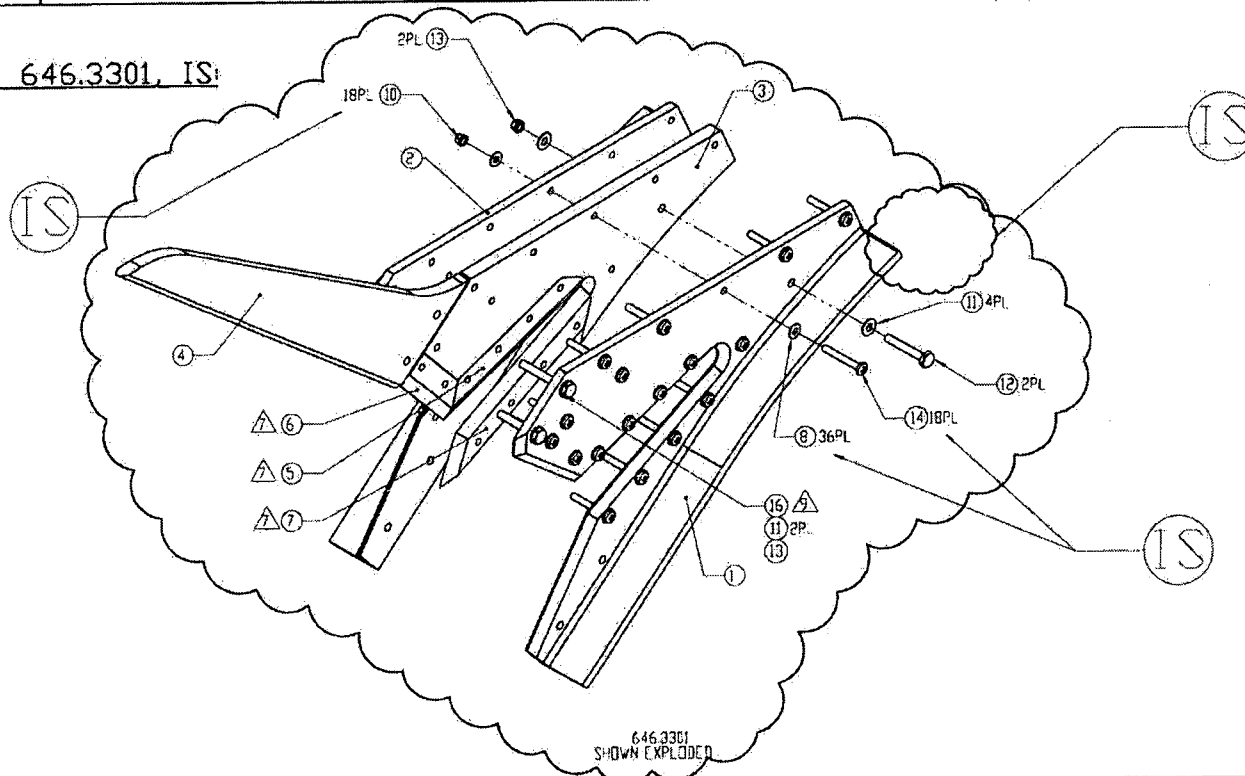


SECTION A-A

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION

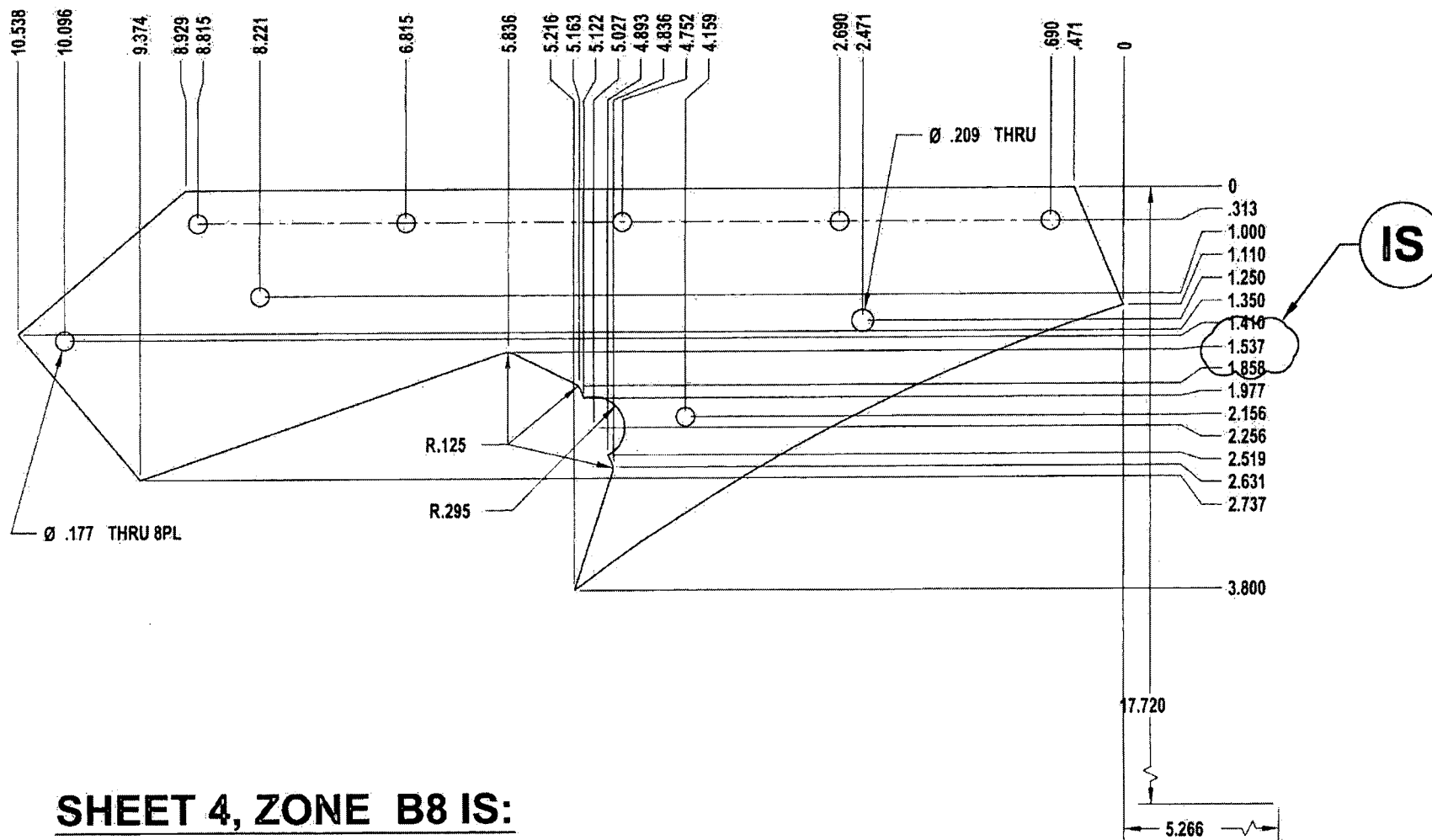
APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 02196			SHEET 1 OF 2	
	DWG NO. 646.3300	REV: N/C	PREPARED BY S. HUFF	DATE: 01/05/09	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: UPPER CUTTER ASSY				
APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER		
TRANSACTION CODES (TC) A-ADD C-CREATE R-REVISE D-DELETE	REASON: REMOVED RIVETS IN FAVOR OF ADDITIONAL SCREWS				

SHEET 1, VIEW 646.3301, IS:



14	R	601.2765		18	SCREW	MS27039-0819	
10	R	601.1541		18	LOCKNUT	MS21042L08	
9	D	601.2766		3	RIVET	MS20470AD5-18	
8	R	601.2764		36	WASHER	NAS1149FN832P	
				.3301			
F/N	TC	PART NUMBER	QTY	DESCRIPTION		MATERIAL/SPECIFICATION	
DOCUMENTS EFFECTED:						CHANGE CATEGORY	DER REVIEW REQUIRED
☐ MDL ☒ INSTALL INSTRUC ☒ ICA ☐ FMS ☒ BOM						☐ MAJOR ☒ MINOR	☐ YES ☒ NO

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03724				SHEET 1 OF 1	
	DWG NO. 646.3300	REV: N/C	PREPARED BY B. PETERS	DATE: 12/05/12	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: UPPER CUTTER ASSY					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>		QC <i>[Signature]</i>	EFF: NEXT ORDER	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED ORDINATE DIMENSION.				ECR: D-12-025



SHEET 4, ZONE B8 IS:

DOCUMENTS EFFECTED:	☐ RFMS ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM	CHANGE CATEGORY ☐ MAJOR ☒ MINOR	DER REVIEW REQUIRED ☐ YES ☒ NO
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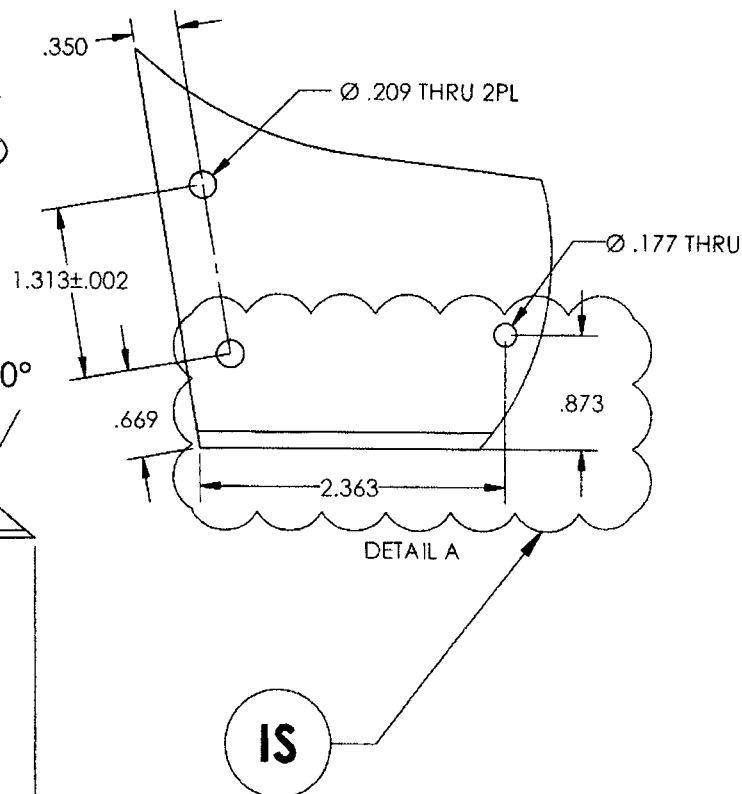
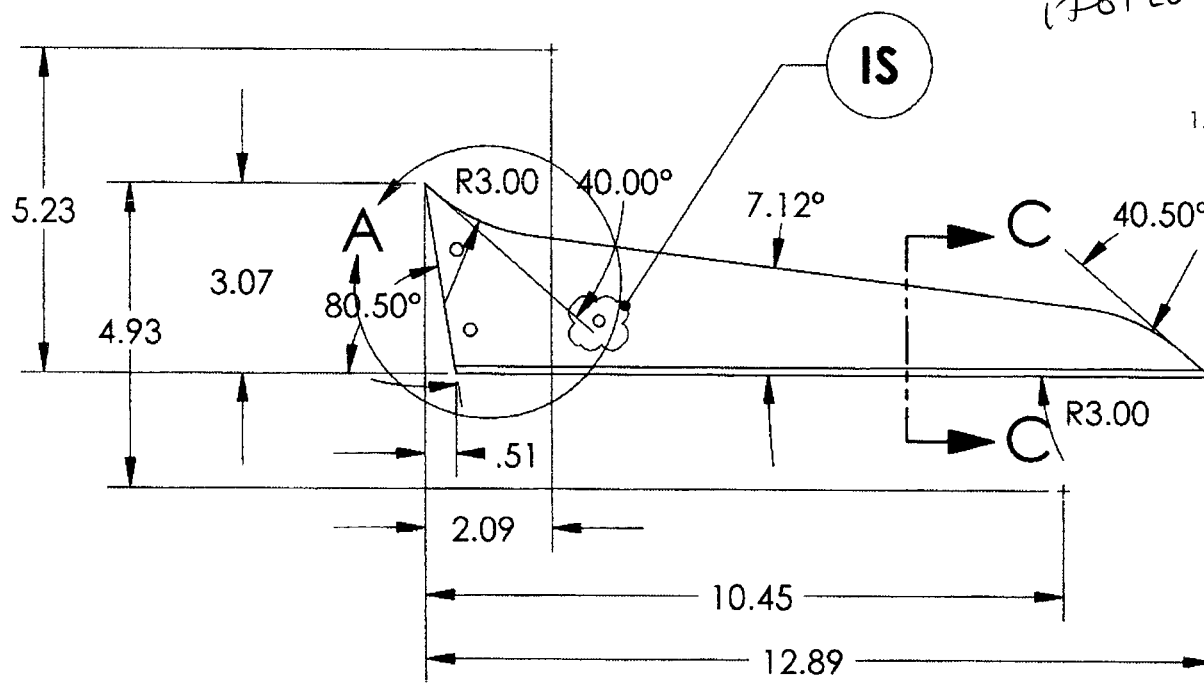
APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 04765		SHEET 1 OF 1	
DWG NO. 646.3300	REV: NC	PREPARED BY J. SOTO	DATE: 12/08/2014
DWG TITLE: UPPER CUTTER ASSY		EFFECT ON DWG ☐ INC. ☒ UNINC.	
APPROVED BY: ENGR. <i>[Signature]</i>	MFG. <i>[Signature]</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER
REASON: ADDED HOLE DIMENSION TO 646.3313.			

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

SHEET 5 IS:

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 160071MUS
170420



DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY					
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	☐	Past Due ☐							

Picklist Print

Thursday, April 20, 2017 2:13:59 PM

Page 1

Work Order ID: 160071

160071

Parent Item: 646.3311

646 3311

Parent Item Name: RH Half - Upper Cutter Assembly

Start Date: 4/25/2017

Required Date: 5/10/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A NEW ISSUE 12/11/27 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B7.000X2.000		Purchased		No		110	f	17.7619	1.115	4.694737			

M7075T6B7 000X2 000

**

7075-T6 BAR 7.000" X 2.000" (order in billets - 13.375")

Location

Loc Qty

Loc Code

MAT001

17.7619

m136715

0.012

m136899

4.375

m137090

13.3749

4.3

DAS

14

9-89

ML 17/04/25

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
☐ OTHER : _____					

Work Order ID 160071

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Item ID: 646.3311 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: RH Half - Upper Cutter Assembly
 Start Date: 4/25/2017 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 5/10/2017 Req'd Qty: 4.00 ***4*** Customer:
 Reference: (P.A.)SCHEDULED/S

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
155 *155* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo 1.5 mils thickness primer	0.00 0.00				4			DAS 38 9-89 JUN 19 2017
180 *180* Packaging Packaging	Identify as per dwg & Stock Location <u>CSE222</u> Memo ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***	0.00 0.00				4			DAS 6 9-89 JUN 20 2017
190 *190* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							17/6/2017 DAS 21 9-89 JUN 20 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Accept

Setup Start *NS1*

Stop *NS2*

4

Cust Item ID:

4

Customer:

Required Date: 5/10/2017 Req'd Qty: 4.00

Reference: (P.A.)SCHEDULED/S

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130 QC8- Inspect parts - second check

0.00

130

0.00

QC

Memo

Quality Control

140	Outsource process-Anodize per QSI017 4.1.10.1	0.00
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0.00

140

0.00

Outsource4

Memo

Outsource process - Anodize

Issue P/O to ATG : 36166

1- Black Anodize as per Dwg 646.3300

2- PRIME AS PER DWG, SEE NOTE #2

Certification of Comformity is required

150	Receive & Inspect for Damage & Mat'l Certs	0.00
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0.00

150

0.00

Packaging

Memo

Packaging

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Description Work Order Deviation		Disposition		Completed By	
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Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

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Revision ID: Stop ***NS2***
Item Name: RH Half - Upper Cutter Assembly
Start Date: 4/25/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 5/10/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference: (P.A.)SCHEDULED/S

Approvals: Process Plan: DAS Date: APR 20 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: 9-89 Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
646.3300	N/C3

110

4.35

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

1.77

HAAS CNC vertical machine #1

1-Machine per folio FB154
DWG REV: N/C3
FOLIO REV: AA
Blank 13.375

2- deburr and break all sharp edges

DAS
14
9-89

17/04/26

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

DAS
14
9-89

17/04/26